

REMARKS

Reconsideration of the above referenced application, as amended, is respectfully requested.

Drawings

The drawings have been objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include reference sign 48" referenced at page 16, line 36. Additionally, the drawings were objected to for not including reference sign 38" in the description. Reconsideration of this objection is respectfully requested for the following reasons.

The specification at page 16, line 36 has been amended to change "48 double prime" to "48 prime". There is no other 48 double prime addressed in the specification and the inconsistency in the specification was an inadvertent error which has been corrected.

The specification at page 15, line 21 has been amended to add "38 double prime". The reference sign 38" appearing in Figure 5 was inadvertently omitted from the description.

Accordingly, withdrawal of objection to the drawings and entry of the formal drawings and corresponding amendment to the specification is requested.

Specification

The specification was objected to for the informalities recited at page 2 of the Office Action. Serial numbers were requested to be inserted at page 3, line 24 and on page 18, line 39. The specification has been amended to have to required update. Entry of the amendments and withdrawal of the objection is requested.

Claim Objection

Claim 46 has been amended to delete the word "or". Withdrawal of the objection is requested.

35 USC § 112

For the reasons presented in the Office Action at pages 3-6 Claims 14, 17, 18, 35, 36, 37, 44 and 51 have been rejected under 35 USC § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Claims 14, 17, 18, 35, 36, 44 and 51 in accordance with the interpretation of the Examiner. Claim 37 has not been amended since it had been amended in applicants' Preliminary Amendment to depend only from claim 27.

For the above reasons, entry of the recited amendments and withdrawal of the rejection under 35 USC § 112 is requested.

Rejection Under 35 USC § 102(b)

Claims 1, 2, 38 and 42-45 have been rejected under 35 USC § 102(a) as being anticipated by U.S. Patent No. 4,588,707 to Domesle et al. ("Domesle") for the reasons presented in the Office Action at page 6. Reconsideration of this rejection is requested for the reasons that follow.

Claim 1 has been amended to be directed a specific embodiment of the present invention having "an inlet layer located on the walls and extending for only part of the length from the inlet end toward the outlet end,".

A review of Domesle at col. 2, lines 39-42 states, "It is preferred that the active substance is applied in the area of the filter inlet side and the noble metal impregnation subsequently

thereto in the area of the filter outlet side.". Furthermore at col. 3, lines 44-47 states, "It has been proven to be particularly advantageous to coat the exhaust gas inlet side of the filter with the catalyst of the invention and the exhaust gas discharge side of the filter with a noble metal catalyst,". Accordingly, Domesle disclose coating the filter walls on the inlet side of the channel walls with his catalyst, and impregnate the outlet side of the channel walls with a noble metal catalyst. There is no disclosure or suggestion in Domesle of the present claims such as claim 1 which has "an inlet layer located on the walls and extending for only part of the length from the inlet end toward the outlet end" (underline for emphasis).

The present invention is directed to directed to an axial zoning in a wall flow honeycomb. This is not disclosed or suggested in Domesle.

Therefore, claim 1 and dependent claims 2, 38 and 42-45 are not anticipated by Domesle. Accordingly, entry of the amendment to claim 1, and withdrawal of the rejection of claims under 35 USC § 102(b) is requested.

Rejection under 35 USC § 103(a) in Parent Application

Claims 1, 2, 6, 9, 10, 14, 17-20, 24, 38-44, 46 and 51 have been rejected under 35 USC ' 103(a) as being unpatentable over Dalla Betta et al., WO 92/09848 ("Dalla Betta") in view of Domesle. Basis for the rejection is recited in the Office Action at page 7.

Dalla Betta is cited as teaching a ceramic or metallic honeycomb substrate having multiple zones. Domesle is cited as teaching a wall flow ceramic honeycomb substrate with an inlet end and an outlet end. In particular, Domesle is cited as follows: "Calalyst compostions of rare earth oxides are coated to the inlet end and outlet." (O.A. Page 7, lines 13-14). It is concluded that the substrate of Dalla Betta could be modified by the teachings of Domesle.

Reconsideration of the rejection is respectfully requested since there is no disclosure in Dalla Betta of a wall flow honeycomb substrate. Dalla Betta is directed to a catalyst architecture for a catalytic combustion process. This type of catalyst is different than that disclosed in Domesle which is a wall flow type diesel exhaust filter. Furthermore, as indicated above Domesle does not disclose or suggest axially zoning catalyst. As indicated above, "the active substance is applied in the area of the filter inlet side and the noble metal impregnation subsequently thereto in the area of the filter outlet side." Domesle discloses a drawing of wall flow design having inlet channels and outlet channels. Gas enters an inlet channel and passes from the inlet side through the channel wall to the outlet channel. Domesle proceeds to "coat the exhaust gas inlet side of the filter with the catalyst of the invention and the exhaust gas discharge side of the filter with a noble metal catalyst,". Therefore, Domesle does not disclose axially zoning catalyst layers and is disclosing a wall flow substrate which is used as a filter and is not disclosed or suggested in Dalla Betta.

For the reasons presented there is no basis for one of skill in the art to combine the disclosure of axially zone coating a catalyst in catalytic combustion type catalyst of Dalla Betta, with a wall flow honeycomb substrate filter disclosure of Domesle having no disclosure of axially zoning to obtain the presently claimed invention.

For the above reasons the claims 1, 2, 6, 9, 10, 14, 17-20, 24, 38-44, 46 and 51 are not obvious based on Dalla Betta in view of Domesle.

Claims 47-50 have been rejected under 35 USC § 103(a) as being unpatentable over Dalla Betta in view of Domesle as applied, and further in view of Hu et al., U.S. Patent No. 6,044,644 ("Hu"). Basis for the rejection is recited in the Office Action at page 8.

Initially reference is made to the above remarks addressing the combination of Dalla Betta and Domesle. As discussed Dalla Betta is

primarily directed to a catalyst for catalytic combustion. While Domesle discloses the use of a wall flow filter but without axial zoning. Similarly, there is no disclosure in Hu of the use of a wall flow filters. Therefore, Hu does not add to inadequacy of the combination of Dalla Betta and Domesle with regard to claims 47-50.

For the above reasons the claims 47-50 are not obvious based on Dalla Betta in view of Domesle as applied, and further in view of Hu.

Claims 1, 2, 6, 9, 10, 14, 17-20, 24, 38-44, 46 and 51 have been rejected under 35 USC § 103(a) as being unpatentable over Takahata et al. U.S.Pat. No. 5,376,610 ("Takahata"), in view of Domesle. Basis for the rejection is recited in the Office Action at pages 8-10.

Takahata is cited as disclosing multiple layers of catalysts at the inlet and outlet of the substrate. The upstream and downstream portions of the substrate are cited as having different compositions. It is recognized that Takahata does not recited the use of a wall flow substrate or that the coating may lack a noble meta.

Domesle is cited as teaching a wall flow ceramic honeycomb substrate. Domesle discloses different catalysts on the inlet side and outlet side of the filter wall. Domesle does not disclose different zones of catalyst in the axial direction for the reasons addressed above.

One of skill in the art would not obviously combine the axial zoned catalyst of Takahata useful to treat exhaust gases from a gasoline powered engine with a wall flow filter of Domesle for treating diesel exhaust having different catalyst on the inlet side and outlet side of the channels. The catalysts of Takahata and Domesle are designed for different applications and their features can not obviously be combined.

For the above reasons the claims 1, 2, 6, 9, 10, 14, 17-20, 24, 38-44, 46 and 51 are not obvious based on Takahata in view of Domesle.

Claims 37, 39 and 41 have been rejected under 35 USC § 103(a) as being unpatentable over in view of Domesle further in view of Dalla Betta. Basis for the rejection is recited in the Office Action at page 10.

Initially, reference is made to the above remarks distinguishing Takahata and Domesle taken alone or in combination. Reference is also made to the above remarks distinguishing Dalla Betta. While Dalla Betta shows overlapping layers there is no disclosure or suggestion that Dalla Betta (catalytic combustion) can be combined with either or both Takahata (gasoline) with Domesle (diesel) to obtain the present invention.

For the above reasons the claims 37, 39 and 41 are not obvious based on Takahata in view of Domesle.

Claims 47-50 have been rejected under 35 USC § 103(a) as being unpatentable over Takahata in view of Domesle as applied, and further in view of Hu. Basis for the rejection is recited in the Office Action at page 11.

Initially reference is made to the above remarks addressing the combination of Takahata and Domesle. As discussed Dalla Betta is primarily directed to a catalyst for gasoline engine exhaust. While Domesle discloses the use of a wall flow filter for diesel engine exhaust but without axial zoning. Similarly, there is no disclosure in Hu of the use of a wall flow filters. Therefore, Hu does not add to inadequacy of the combination of Takahata and Domesle with regard to claims 47-50.

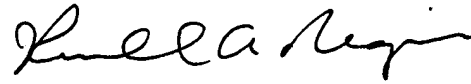
For the above reasons the claims 47-50 are not obvious based on Takahata in view of Domesle as applied, and further in view of Hu.

Entry of the above amendment, withdrawal of the objections and rejections under 35 USC § 112, 35 USC § 102, and 35 USC § 103 and allowance of claims 1, 2, 6, 9, 10, 14, 17-20, 24, 27, 28, 32 and 35-51 is respectfully requested.

09/873,979 (Engelhard Corporation 3919A CON)
Amendment
December 17, 2004
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Applicants submit their application is in condition for allowance and respectfully request the same. Should the Examiner have any further questions or require further clarification, the Examiner is invited to telephone the undersigned at the number given below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Richard A. Negin". The signature is fluid and cursive, with the first name "Richard" being more prominent and the last name "Negin" following in a similar style.

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